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INDIVIDUAL DIFFERENCES AS PREDICTORS OF SOCIAL NETWORKING

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ABSTRACT

Research suggests that personality dictates specific Internet preferences. One area that remains relatively unexplored is the influence of personality on engagement with social networking sites (SNSs). The current study employs a 'Uses and Gratifications' framework to investigate whether personality, age and sex predict motivations for using SNSs. The study explores both global and specific factors of personality using Eysenck's EPQ-R short form (extraversion, neuroticism and psychoticism) and Beck's SAS (sociotropy and autonomy). Principal component analysis identified ten distinct motivational components, which were then successfully predicted by individual differences through regression analyses. It is therefore suggested that individuals with different profiles vary in their motivations for using SNSs. Results support theoretical assumptions based on previous literature and personality dispositions.

KEYWORDS: Individual differences, Personality, Social Networking Sites

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Social Networking Sites (SNSs) are characterised by three distinctive features. First, they allow individuals to create a profile within a web-based system to define their visual presence. Second, members can then add connections with other members, creating a list of associations. Finally, users are able to navigate through such associations to access a wider network (boyd & Ellison, 2007). Offering a full range of features, SNSs incorporate aspects of the social, leisure and informational services that Hamburger and Ben-Artzi (2000) once used to define the Internet, and have revolutionised the manner in which individuals communicate and maintain social networks. It is therefore important to explore the types of motivations that individuals may have for using these sites. In turn, this may explain the popularity of such sites in comparison to previous alternatives and explicate the benefits of membership.

It would be remiss to examine motivations for using SNSs without taking inspiration from the 'Uses and Gratifications' (U&G) approach. U&G theory consists of a collaboration of theories and frameworks used to explain media choice, and aims to explore individuals' motivations when actively choosing particular media options or features (Katz, Blumler & Gurevitch, 1974). The approach emphasises that media users are goal-directed in their usage, seeking out specific gratifications to fulfil their individual needs. These personal needs derive from individual psychological and sociological factors. Media choice is dependent on gratification fulfilment and satisfying these needs (Rubin, 2002). In recent years the approach has been revamped to explore gratifications derived from Internet usage. For instance,

LaRose and Eastin (2004) propose a modification to the U&G approach to help explain Internet engagement. Specifically, they argue that instead of gratifications one should consider the expected outcomes of Internet use as a predictor of the types of online activities that people are likely to partake in. In other words, if expected outcomes are met, this provides impetus for the user to continue engagement with a specific online activity. Several studies have already explored U&G derived from SNSs. Urista, Dong and Day (2009) investigated Facebook and MySpace use through focus groups, identifying efficient communication, convenient communication, curiosity about others, popularity, and relationship formation as motivations for use. Raacke and Bonds-Raacke (2008) also explored both sites and suggest that the most common U&G for users include: keeping in touch with previous or current friends, sharing photographs, making new friends, and locating old friends. Nyland, Marvez and Beck (2007) found that MySpace users valued the ability to meet new people, to be entertained, to maintain relationships, to manage social events, and for media creation. Finally, Joinson (2008) identified seven factors of Facebook usage, which were labelled as social connection, shared identities, photographs, content gratifications, social investigation, social network surfing, and status updating. Additionally, motivations of specific SNS features have also been examined. For instance, Park, Kee and Valenzuela (2009) acknowledged four needs that drive membership of Facebook groups: socialising, entertainment, self-status seeking, and information.

These studies offer a valid and useful insight into the motivations of SNS users, yet there is minimal research on factors affecting individual use. Katz, Blumler and Gurevitch (1974) stress that U&G should be viewed in the light of individual factors. Indeed, it is argued that U&G alone cannot be fully understood without consideration of external social and

psychological factors that may account for individual variance (Donohew, Palmgreen & Rayburn II, 1987). Personality is an example of one such relevant factor. However, despite assurances of its importance (Raacke & Bonds-Raacke, 2008), research has rarely explored the impact of personality on SNS usage.

The current study explores the influence of both global and specific factors of personality on motivations for using SNSs. Eysenck's three-factor model (Eysenck & Eysenck, 2006) was chosen as a global measure of personality. All three of Eysenck's personality dimensions are associated with social aspects of behaviour and have already been successfully linked to Internet usage (see Orchard & Fullwood, 2010). The theory relies on the assumption of the existence of a biological basis that drives underlying needs. Extraversion/ introversion is related to differing levels of cortical arousal; neuroticism/ emotional stability is related to differing activation thresholds within the sympathetic nervous system; and psychoticism/ impulse control is related to differing androgen levels (Eysenck, 1967). Individuals will show preference to activities that allow them to reach their optimal physiological state, and their personality traits reflect this. High extraversion scorers are sociable, excitable characters, whereas introverts are more quiet and reserved. High neuroticism scorers are anxious and emotional, whereas low scorers are calm and even-tempered. Finally, high psychoticism scorers are anti-social and impulsive, whilst low scorers are empathic and caring.

A recent literature review (Orchard & Fullwood, 2010) suggests that personality translates to the Internet in an expected manner, with individuals seeking out activities that fit their predisposed needs. Introverts were found to value computer-mediated communication (CMC), and were able to access their "real me" online (Bargh, McKenna & Fitzsimmons,

2002) but preferred anonymous interactions; whilst extraverts preferred environments with a high offline saliency, such as SNSs. High neuroticism scorers are also thought to value CMC, yet opt out of anxiety provoking activities, such as online discussion groups, in preference for activities with more control, such as blogging. Finally, psychoticism was linked to a strong disinterest in CMC and a preference for more socially unacceptable activities, such as viewing pornography or illegal file-sharing (see Orchard & Fullwood, 2010). Although this summary is based on generic Internet use, the comprehensive nature of SNSs as a hub of Internet activity suggests that such associations may still apply. In terms of age and sex, research literature generally supports differential Internet use between younger and older users, and between males and females. For instance, Colley and Maltby (2008) report that males use the Internet to benefit their career, whilst women see benefits to social communication. Furthermore, Pfeil, Arjan and Zaphiris (2009) uncovered several differences between age groups (teenagers and over 60s) in terms of MySpace usage. Most notably, users differed in their profile content, their feature usage and network set-up. The prevalence of variance suggests that age and sex should be key variables to explore when conducting SNS research.

Exploring personality in a global manner will provide an overview of the potential influence of personality. However, Amichai-Hamburger (2002) argues that more specific personality traits may be more fruitful in identifying explicit links. As such, two additional personality variables (sociotropy and autonomy – Beck, 1983) are also explored. These two variables are specifically concerned with the importance an individual places on others when considering their own behaviour. Sociotropy refers to a person's need for positive communication exchange with others. High scorers of sociotropy are socially skilled, have a strong need for

group belonging and seek approval from others. Thus their need for personal identity is diminished. In essence, high autonomy scorers are the opposite of this. Autonomy refers to a person's need for independence, control and freedom. High scorers strive for individual successes. As surmised by Cappeliez (1993), sociotropy revolves around feelings of inferiority towards others, whilst autonomy is more concerned with strong-will and determination. These two personality variables, or 'modes', are referred to as vulnerability factors for depression. High sociotropy scorers who cannot satisfy their need for belonging, and high autonomy scorers who cannot satisfy their need for personal independence, will be more susceptible to depression; whilst satisfaction of their needs will lead to enhanced psychological wellbeing. Given that the media often focuses on the attention-seeking features of SNSs, it was thought that incorporating these modes would explore an interesting dichotomy of use in terms of those who rely on social feedback and those who do not.

The current study utilises both Eysenck's three-factor model, and Beck's ideas of sociotropy and autonomy. Age and sex are also included given that differences have already been highlighted through previous research (e.g. Joinson, 2008). The current study aims to explore whether personality, age and sex can predict motivations for using SNSs using a self-report method. In line with U&G assumptions, media users are thought to be able to accurately self-report motives that drive use (Becker, 1979). Given that personality variables relate to differing needs, it is hypothesised that individual differences will predict differing motivations behind SNS usage.

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METHOD

Participants

In total, 244 participants (74% females; 24% males; 2% undisclosed) took part in the study. Participants' ages ranged from 16 to 48 (*M*=20 years; *SD*=5.55), based on 237 disclosures. An opportunity sampling method was used and participants were recruited via several methods. The study was primarily advertised within a university psychology department and students were offered course credit in exchange for participation. The study was also advertised through local colleges. Student status was not specified as a study requirement.

Materials

SNS Questionnaire

The SNS questionnaire comprises two sub-sections. The first four questions assess basic application usage. These questions ask participants about the number of SNSs they use, their favourite SNS, time spent using SNSs, and frequency of access. Questions are open-ended, except for the frequency question, which includes multiple-choice options ranging from 'less often than once every few weeks' to 'three or more times a day'. Secondly, a list of possible motivations or 'gratifications sought' is presented. The list was inspired from previous uses and gratifications research (Ko, 2000; Lo & Leung, 2009; Papacharissi, 2002; Papacharissi & Rubin, 2000; Stafford, Kline & Dimmick, 1999) to increase concurrent validity. Becker (1979) suggested that the types of gratifications that individuals seek out tend to be uniform across media and communication channels. Thus, by using previous research as a guide, a large number of relevant motivations are encompassed. Fifty-three motivations were included in the questionnaire. Items were presented to participants in the form of a Likert scale,

ranging from 'Strongly Disagree' (1) to 'Strongly Agree' (6). Participants were asked to rate the extent to which they agreed/ disagreed that each item motivated them to use SNSs.

Personality Scales

The EPQ-R short scale (Eysenck & Eysenck, 2006) was used to measure extraversion, neuroticism and psychoticism. The scale is made up of 48-items, with yes/ no dichotomous responding. Scores for each scale range from a 0 to 12. Despite its short length the scale is statistically comparable to its longer predecessors (e.g. Barrett & Eysenck, 1992). Furthermore, reliability is only slightly diminished. For extraversion, the scale has quoted alpha-coefficients of .88 for males, and .84 for females. For neuroticism, reliability measures are .84 for males and .80 for females. For psychoticism reliability measures are the lowest at .62 for males and .61 for females (see Eysenck & Eysenck, 2006).

Beck, Epstein, Harrison and Emery's (1983) Sociotropy – Autonomy Scale (SAS) was used to assess levels of sociotropy and autonomy. The scale is made up of 60 items, split evenly between the two personality modes. To complete the scale participants are required to select the percentage of time that they feel they experience each item statement on a scale of 0% (scored 0) to 100% (scored 4), in increments of 25%. Possible scores therefore range between zero and 120 for each dimension. Both scales have been found to have good psychometric properties, with scales yielding an internal reliability coefficient alpha of .90 for sociotropy and .83 for autonomy (Beck et al, 1983).

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Procedure

An initial pilot study was carried out on 34 participants to test questionnaire suitability and minor revisions were made to each of the experimenter-designed questionnaires on the basis of participant feedback. For the final study, participants were asked to complete a questionnaire pack consisting of several sections: the information sheet and consent form, a SNS questionnaire and two personality questionnaires.

RESULTS

Exploratory questions

The first set of questions explored general SNS usage habits, looking at the number of SNSs used, favourite SNS, time spent on the site, and frequency of log-ins. Due to non-normality of some variables, non-parametric tests are used throughout, unless specified.

Participants claimed to use between one and six SNSs. Just under a third of the sample claimed to use just one SNS (29.5%), whilst the modal response was the use of two (42.2%). The number of participants claiming to use more than two SNSs reduced sequentially (22.1% stated they used three SNSs, 3.7% stated they used four SNSs, 1.6% stated they used five SNSs and 0.8% stated they used six SNSs). Kruskal-Wallis tests were conducted to look for differences in personality variable scores between those who use one, two, or three or more SNSs. Answers were re-categorised into three groups due to the low frequency of users above three SNSs. Sociotropy score was found to yield a significant difference (χ^2= 6.529, df=2, $p<.05$). Through Mann-Whitney U Pairwise Comparisons, post-hoc checks suggest that those with two SNS memberships were higher in sociotropy score than those with one (U=1982.5, z=-2.56, p=.011; Mdn=73.0 and 65.5 respectively).

Of those who stipulated a favourite SNS, the majority of participants chose Facebook (84.6%), with the majority of remaining participants indicating MySpace as their favourite site (14.2%). Only 1.2% of the sample indicated a site other than these two sites. Due to the high percentage of multiple SNS users, it can be suggested that only a small number of participants did not use Facebook. Kruskal-Wallis tests were used to compare personality scores between preferences, but no significant differences were found ($p>.05$).

Participants were asked to estimate the amount of time they remained logged on to SNSs on the average visit. Answers varied widely, ranging from 5 minutes to 660 minutes ($M=77$; $SD=82$). Correlations were explored between time and personality variables; however associations were non-significant. Furthermore, participants were asked how often they logged onto their favourite SNS. Kruskal-Wallis tests to explore differences in personality between each frequency choice were non-significant ($p>.05$).

Principal Component Analysis (SNS Motivations)

Before associations could be made between personality traits and motivations for application use, items from the uses and gratifications section of the questionnaire needed to be synthesised. Principal Component Analysis (PCA) was chosen to consolidate SNS motivations from the questionnaire into a smaller number of components for clearer analysis. The final analysis was based on forty items and 220 participants.

The PCA calculated ten components with eigenvalues above Kaiser's criterion of one, explaining 69.415% of the variance. Assumptions of sphericity (Barlett's Test of Sphericity;

p<.001), and sampling adequacy (Kaiser-Meyer-Olkin = .895) were met. The extracted components were labelled Procrastination (containing seven variables), Freedom of expression (six variables), Conformity (five variables), Information exchange (four variables), New connections (four variables), Ritual (four variables), Social maintenance (four variables), Escapism (two variables), Recreation (two variables), and Experimentation (two variables), making variance contributions of 11.465%, 9.590%, 7.699%, 7.580%, 6.977%, 6.393%, 6.185%, 4.793%, 4.693% and 4.040% respectively. The final factor structure can be seen in Table 1, including factor labels.

Each of the ten components suggested by the PCA was subjected to scale reliability analyses to obtain a Cronbach's alpha level, to check the validity of variable pairings within each component. These were Procrastination (.893), Freedom of expression (.875), Conformity (.805), Information exchange (.817), New connections (.791), Ritual (.802), Social maintenance (.757), Escapism (.820), Recreation (.831), and Experimentation (.594). The final factor 'Experimentation' should perhaps be considered with caution due to its lower alpha value, calculated from only two items.

Regression Analysis

Factor scores were calculated, using the regression method, for individuals for each component. To assess the predictive ability of individual differences on component factor scores, all seven predictive variables (i.e. psychoticism, extraversion, neuroticism, sociotropy, autonomy, age and sex) were entered into several stepwise regressions. Variables excluded from the tables below were found to be non-significant, and did not contribute to the models.

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Procrastination

The first component, 'procrastination', is significantly predicted by age (β = -.428, p<0.01). All other variables were excluded from the model (r^2_{adj} = .179, $F_{7,175}$ = 39.089; p<.001). Younger individuals, more so than older users, tend to favour the use of SNSs as a method of procrastination or passing time.

Freedom of Expression

Psychoticism (β = .183, p<0.05) formed the only significant predictive model of the second component 'freedom of expression' (r^2_{adj} = .028, $F_{7,174}$ = 6.061; p=.015). Individuals scoring higher on the psychoticism scale favour the use of SNSs as a means of freedom of expression.

Conformity

Both sociotropy (β = .236, p<0.01) and age (β = .207, p<0.01) significantly loaded onto the predictive model of 'conformity' (r^2_{adj} = .053, $F_{2,173}$ = 5.885; p=.003). Older users and those that score higher in sociotropy are more motivated to use SNSs to conform with others. Sociotropy held the highest partial correlation coefficient at .22, compared to age at .20

Information Exchange

Only sociotropy (β = .257, p<0.01) was found to significantly influence the model predicting the 'information exchange' component (r^2_{adj} = .061, $F_{1,174}$ = 12.307; p=.001). All other variables were excluded from the model. Those that score higher in sociotropy are more motivated to use SNSs for information sharing purposes.

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New Connections

The association between the predictors and 'new connections' component is significant (r^2_{adj} = .097, $F_{3,172}$ = 7.248; p<.001). Psychoticism (β = .198, p<0.01), extraversion (β = .196, p<0.01) and age (β = -.183, p<0.05) all significantly impacted upon the regression model. Psychoticism held the highest partial correlation coefficient at .204, closely followed by extraversion at .203 and then age at -.189. Younger networkers, as well as those scoring higher in extraversion and psychoticism, are more likely to favour the use of SNSs to seek out new friendships.

Ritual

The association between the predictors and the ritualistic component is significant (r^2_{adj} = .031, $F_{1,174}$ = 6.576; p=.011), with one significant variable, sociotropy (β = .191, p<0.05). Those who score higher on sociotropy favour the use of SNSs for ritualistic use.

Social Maintenance

The association between the predictors and 'social maintenance' is significant (r^2_{adj} = .080, $F_{7,174}$ = 16.266; p<.001). This was accounted for by the significance of the dummy variable sex (β = -.292, p<0.01). The model indicates that females, more so than males, are more motivated to use SNSs for their primary purpose of social maintenance.

Escapism

The association between the predictors and the 'escapism' component is significant (r^2_{adj} = .028, $F_{1,174}$ = 6.085; p=.015). However, the only significant contributing variable was

neuroticism (β = .184, p<0.05). Those who score higher on neuroticism favour the use of SNSs for escapism.

Recreation

The association between the predictors and the 'recreation' component is significant (r^2_{adj} = .034, $F_{1,174}$ = 7.177; p=.008), with extraversion (β = .199, p<0.01) significantly contributing to the model. All other variables were excluded.

Experimentation

The final component of 'experimentation' was significantly predicted from a two-variable model (r^2_{adj} = .045, $F_{2,173}$ = 5.143; p=.007) including autonomy (β = -.180, p<0.05) and sex (β = .167, p<0.05). Lower autonomy scorers and males predict this component. Autonomy was found to have the highest partial correlation coefficient at -.181, with sex at .169.

Summary of motivations analysis

To summarise, the PCA uncovered ten motivations, which were then subjected to stepwise regression analyses. All motivations were predicted by at least one variable. Psychoticism predicted the motivations of freedom of expression and new connections; extraversion predicted new connections and recreation; neuroticism predicted escapism; sociotropy predicted conformity, information exchange and ritual; autonomy predicted experimentation (negatively); age predicted procrastination (negatively), conformity and new connections (negatively); and sex predicted experimentation (males) and social maintenance (females).

Prediction of usage from motivational components

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An additional stepwise regression analysis was conducted to explore whether the motivations identified could predict time spent on SNSs as a measure of usage. A significant model was yielded (r^2_{adj} = .139, $F_{4,197}$ = 9.135; p<.001), with usage predicted by four motivations (new connections (β = .238, p<0.01), freedom of expression (β = .208, p<0.01), recreation (β = .162, p<0.05) and experimentation (β = -.153, p<0.05). This accounted for 13.9% of the variance. Partial correlation coefficients were .251, .220, .172, and -.165 respectively. The negative *B* value for experimentation suggests that those who are not motivated by experimentation use SNSs longer per day than those who are.

DISCUSSION AND CONCLUSIONS

Study findings fit well within U&G theory and support the hypothesis that personality and individual differences may predispose users to particular motivations for using SNSs.

Links with SNS usage patterns

Individual differences do not seem to influence fundamental usage of SNSs, for instance whether users choose to use a SNS or their frequency of use. The only significant result within general usage relates to the finding that sociotropy score differed between those using one or two SNSs. At the time of data collection Facebook and MySpace were the most widely used SNSs in the UK. As such, it may be suggested that those high in sociotropy would seek membership in the most popular SNSs to ensure that users of both sites view them positively. Furthermore, this may result from a fear of 'missing out', which fits in with the significance of sociotropy in the prediction of conformity and ritualistic behaviour.

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Links with SNS motivations

Extraversion significantly predicted the motivations of 'new connections' and 'recreation'. Extraverts are defined as having a high social need and aim to extend their social network (Eysenck & Eysenck, 1975). Furthermore, introverts may not feel comfortable searching for new friends due to the amount of information available about their offline self on their profile. This would also explain the increased recreational value that extraverts find online. Based on the findings of Amichai-Hamburger, Kaplan, and Dorpatcheon (2008) for example, introverts may value more anonymous environments as this allows them to discover their "real me". Thus, when U&G theory is considered, it fits well that extraverts would prefer this environment as both a recreational space and one in which new contacts can be pursued.

Higher psychoticism scorers were found to be motivated to use SNSs as a potential arena for freer speech. Again this fits well with the underlying disposition of psychoticism, which assumes that higher scorers are non-conformists who shun social norms. The online disinhibition effect (Suler, 2004) stipulates that the unique features of an online environment, such as reduced authority and invisibility, allows users to feel more uninhibited. This may result, for instance, in higher levels of self-disclosure (benign disinhibition) or more negative behaviours, such as increased aggression or overt swearing (toxic disinhibition). Suler (2004) further suggests that personality can interact with the effect, which can influence the type and level of disinhibition displayed. Thus, those with higher psychoticism scores may be attracted to online communication environments because of the freedom that is afforded to them. One might expect those who score higher on psychoticism to be more likely to engage in toxic disinhibition resulting in outspoken or opinionated behaviour without restriction; however, specific behavioural research will be needed to clarify this hypothesis. Psychoticism was also

significantly predictive of the new connections motivation. This can be explained in two ways. First, higher scorers may find it easier to find others online who they share interests with. Higher psychoticism scorers are relatively few in the normal population; the Internet's searching facilities and indeed the 'groups' facility on SNSs specifically, may enable higher scorers to seek out those similar to themselves. Alternatively, seeking out new connections is potentially exemplarily of a more risky behaviour available on SNSs, particularly Facebook which is heavily based around one's offline social network. Psychoticism has previously been linked to riskier online behaviour such as viewing pornography (Amiel & Sargent, 2004). Thus, it could be that higher psychoticism scorers are seeking out new contacts in a non-conformist manner. Moreover, Fullwood, Galbraith and Morris (2006) noted that impulsive nonconformity related to frequency of chat room use in female chatters. Chat rooms are associated with risk-taking behaviour because they centre on communication with strangers. As psychoticism is linked with non-conformity, it may be the case then that high psychoticism scorers are seeking out new connections with strangers as opposed to individuals that are already known to them in the offline world.

High neuroticism scorers reported being more likely to use SNSs for escapism. This may suggest that these users are finding SNSs as an arena of escapism from their offline life. Perhaps these scorers find the SNS environment to be less anxiety provoking than 'everyday' interactions and are therefore motivated to use them as a social outlet. It is also possible that neurotics enjoy the distraction that SNSs afford them from everyday anxieties.

Sociotropy was predictive of the conformity, information exchange and ritual motivations. Again, this fits well with U&G predictions based on the disposition of those scoring high on

this trait. Sociotropic individuals are concerned with how others view their behaviour and as such will want to follow any current trends, such as SNSs, in order to improve their social standing. This may also be due to a fear of 'missing out' on information or communication that occurs solely on SNSs. In terms of the information exchange motivation, sociotropic individuals may feel more confident both asking and giving advice in the CMC environment due to the lack of social cues, which may place restrictions on them in an offline environment. Sociotropic individuals are highly sociable in nature, so it also makes sense that these individuals will enjoy the ability to exchange information as an additional social medium. Sociotropic users also seem to use SNSs in a somewhat ritualistic manner. This may occur either through their usage (e.g. accessing the site at the same time everyday) or their behaviour (e.g. updating their status regularly). If users are logging on regularly to check their Friends' profiles it may be that they are involving themselves in monitoring behaviours to ensure that they are updated on any latest news. Indeed, a ritualistic behaviour of monitoring has already been suggested by Urista et al. (2009). This again may in turn be perceived as helping their social standing by better preparing them for any upcoming socialisation or as a self-soothing process to relax any anxieties stemming from a feeling of 'missing out'.

Autonomy was found to be predictive of the experimentation motive. The negative Beta value suggests that lower scorers are more likely to use SNSs for this purpose. Those with a higher autonomy score seek a high level of control, thus this finding may be explained by the high autonomy scorers taking great care to control their SNS usage and create an accurate impression of themselves. The lower scorers therefore, may be more likely to experiment and play with their self-representation.

Age was predictive of conformity and negatively predictive of the new connections motivations. These two findings seemingly validate one other. If older users are using SNSs only to conform, it makes sense that younger users would be more likely to try out the full range of available activities. Age was also predictive of the procrastination motivation. This supports previous literature that also tends to suggest that age is negatively related with procrastination in other areas, for example academic procrastination (e.g. Balkis & Duru, 2009). Alternatively the finding may reflect differing attitudes towards technology. Younger users may be more comfortable using technology than older users, and thus more likely to procrastinate on SNSs over other avenues.

In terms of sex, the results show a female preference for general social maintenance. This link is well established in both online and offline research. For instance, Joinson (2008) also found a female preference for social connections within SNSs. Furthermore, Di Leonardo's (1987) early research suggests that women tend to maintain kin and friendship links more so than men. Sex was also predictive of the experimentation motivation, suggesting that males may be more likely to lie or experiment with the information that they include on their SNS profiles. Previous research does suggest differences between the sexes in terms of type and use of deception. For instance, Whitty (2002) found that men were more likely than women to lie in chat rooms. Furthermore, males have been linked to using SNSs with a motive of dating (Raacke & Bonds-Raacke, 2008), thus this finding may be linked to the need to create a more favourable profile impression. Further research should explore any negative effects resulting from such experimentation.

The final regression analysis explored the strength of motivations at predicting SNS usage, in terms of time spent on SNSs per day. Results seem to support logical assertions underlying each motivation. The motivation of new connections was the strongest predictor. It makes sense that users looking to make new friendships on SNSs would have to be active in their use and spend time on the site, as opposed to social maintenance for instance, where an existing link and occasional line of communication may suffice. Those motivated by freedom of expression also tended to use SNSs more, which may reflect the unique ability of SNSs to allow for communication outside of prescribed social norms yet remain in a 'nonymous' environment. The predictive ability of recreation seems self-explanatory, with those using the site for enjoyment using it more often. Finally, those who do not want to experiment use SNSs more, which may reflect the inadequacy of SNSs to experiment due to their offline saliency. Such users may invest more time into alternative online sites whereby anonymity is emphasised. From this basic analysis results appear to support the U&G paradigm.

Limitations and conclusions

Although the research draws together logical and psychologically sound conclusions, it does not coincide completely with previous literature. Whilst personality is hard to compare due to a lack of literature, studies looking at age and sex within SNS gratifications only partially supported the results. For instance, although the ideas of Joinson (2008) were mostly supported, Park et al. (2009) found a link between females and informational gratifications that did not transpire; whilst the results of Raacke and Bonds-Raacke (2008) were only partially supported. Such differences, however, are considered minor and may exist due to differences in methodology or specificity of the SNSs studied. The current study did not restrict or specify particular SNSs when recruiting participants.

It is also worth noting that the results from the factor analysis were restricted by the items included. A strict method of analysis was used to optimise interpretation of results. Thus individual items removed from analysis were not necessarily inappropriate for the study of SNSs. Also, items included were of a generalised manner and only included theoretical gratifications rather than specific uses of SNSs. This was to avoid a crossover of ideas within the factor analysis. However, more specific items relating to specific uses (e.g. to view photos), rather than gratifications, would have altered the factor structure and uncovered some of the more content-based gratifications, as found in some previous studies (e.g. Raacke & Bonds-Raacke, 2008). This is not in essence a criticism, but rather an alternative method of inquiry. Furthermore, despite extensively searching previous U&G literature, it cannot be guaranteed that all motivations for using SNSs were considered. This is apparent when considering the changes in SNSs since data collection. For instance, as it progresses, Facebook is becoming more embedded into an environment of nostalgia. As all communication, photo updates and status updates are saved indefinitely, it has started to take on the function of an online diary, with a visual, dated backlog of personal events and interactions. This has become more apparent with its "timeline" set-up. Thus, items relating to the retention of social memories may have created a further factor if included. This idea stipulates the importance of increasing and repeating research in an environment with such a rapid rate of development. Furthermore, these ideas may explain minor differences between current results and previous literature. Again, however, it is emphasised that the aim of the study was not to create a perfect motivational structure of potential gratifications, but rather explore differences between these gratifications in terms of personality.

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The results of this study imply that differing user profiles (e.g. personality, age and sex) may interact differently with SNSs. These differences appear to stem from dispositional differences that appear to affect motivational reasons behind SNS usage. It is hypothesised that further research may find personality differences in more specific SNS behaviours. For instance, psychoticism predicted the motivation of 'freedom of expression'; perhaps this is reflected in the way high-scorers construct their profile. For example, they may be more willing to discuss "taboo" subjects or include more swearing. The idea of gratifications and needs translating into behaviour has already been highlighted by Park et al. (2009), when it was found that those seeking information through participation within Facebook groups were more likely to engage in civic activities. Therefore, further research may consider investigating behavioural aspects of SNS usage. Although research has already started to explore the intricacies of personality differences within SNS feature interaction (e.g. Amichai-Hamburger & Vinitzky, 2010) further exploration of how personality needs are being fulfilled through the site is warranted. Moreover, there is little research exploring how personality, age and sex may interact with outcomes of SNSs in terms of well-being; an issue of great importance due to the increased dependency of such sites as a viable social channel.

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Table 1

Questionnaire item structure within each motivation

	Motivation									
	Procrastination	Freedom of Expression	Conformity	Information Exchange	New Connections	Ritual	Social Maintenance	Escapism	Recreation	Experimentation
Boredom	.848									
Something to do	.810									
Passes time	.786									
Nothing better to do	.768									
Keep myself occupied	.752									
Distraction from other things	.553									
To entertain myself	.437									
Say what I want		.750								
Express myself freely		.727								
Voice my opinion		.718								
Think about what I want to say		.681								
Relax		.584								
Communicate with less pressure		.459								
Everyone else does			.806							
Other people expect me to use it			.782							
The thing to do			.717							
To be like others			.610							
I have to			.541							
Gain advice				.788						
Get information from others				.726						
Give advice				.661						
Convenient				.521						

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Communicate online	.778				
Communicate with those I don't know	.775				
Make new friends	.724				
To date	.457				
Habit		.752			
Part of my Internet routine		.728			
Maintain daily routine		.696			
Favourite type of communication		.509			
Keep in touch			.772		
Communicate with distant friends			.760		
Communicate with those I know offline			.688		
Maintain social contact			.647		
Forget about responsibilities				.785	
Escape reality				.770	
Exciting					.761
Fun to use					.616
Pretend to be someone else					.795
I can lie					.732

Rotation Method: Varimax with Kaiser Normalization.
Items are presented in a shortened manner to minimise table length